

**REMARKS**

***Summary of the Office Action***

Claims 1-36 are all the claims pending in the application.

Claims 35 and 36 are objected to under 37 C.F.R. 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Claims 7, 17, 24 and 31 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards and the invention.

Claims 16, 30 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Bellifemine et al. (U.S. Patent No. 6,122, 320).

Claims 1-6, 21-23 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bellifemine et al. in view of Yoshino et al. (U.S. Patent No. 7,124,317).

Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bellifemine et al. in view of Yoshino et al., and in view of Daly (U.S. Patent No. 5,150,433).

Claims 11-13, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bellifemine et al. in view of Yoshino et al., and in view of Rajska et al. (U.S. Patent No. 6,353,842).

Claims 14, 15, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bellifemine et al. in view of Yoshino et al., and in view of Barton (U. S. Patent No. 5,912,972).

Claims 17, 19, 20, 31, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bellifemine et al. in view of Daly.

Claims 18 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bellifemine et al.

Claims 24 and 25 are rejected under 35 U.S.C. 103(a) as being unpatenable over Bellifemine et al. in view of Yoshino et al., and in view of Daly.

***Objection to Claims***

With respect to the objection to claims 35 and 36, Applicants amended claims 35 and 36 to independent claims reciting all of the limitations in claims 21 and 30, respectively.

Accordingly, Applicants respectfully request that the objection be withdrawn.

***Claim Rejections Under 35 U.S.C. § 112***

With respect to the rejection of claims 7, 17, 24 and 31, the Examiner points out that claims 7, 17, 24 and 31 recite the limitation “the sum of absolute difference information,” which has insufficient antecedent basis in the claims, and thereby it is not clear what “absolute difference information” the Applicant is exactly referred to.

Applicants amended “the sum of absolute difference information” in claims 7, 17, 24 and 31 to “a sum of absolute difference information,” respectively, and therefore respectfully request that the rejection be withdrawn.

***Claim Rejections Under 35 U.S.C. § 102***

In rejecting claim 16, the Examiner refers to Bellifemine et al. as disclosing a circuit for motion estimation in digitized video sequence encoders, which has a similar structure and function to the claimed invention.

Claim 16 recites:

An apparatus for generating a random number, the apparatus comprising:  
a content processor that receives an audio/video stream, and generates and outputs statistical feature information of the audio/video stream; and  
a random number generator that receives the statistical feature information and generates a random number using the statistical feature information.

Bellifemine et al. appears to disclose that the matching criteria (or cost functions) most commonly adopted in motion estimation are the mean absolute or mean square difference (or error) between the pixels in a current picture and those in a reference picture (col. 1, lines 62-67 of Bellifemine et al.), and that pixel processor CE is arranged to calculate the mean absolute error between a current macro-block and a reference macro-block (col. 14, lines 4-9 of Bellifemine et al.).

However, Bellifemine et al. does not disclose, *inter alia*, “a random number generator that receives the statistical feature information and generates a random number using the statistical feature information,” as recited in claim 16.

On the other hand, the Examiner asserts, referring to col. 1, lines 39-61 of Bellifemine et al., that “a reference vector (i.e. a reference macro-block or a 8x8 motion vector) can be considered as a statistical feature information because it is provided/outputted via a statistical manipulation process from the motion estimation units” (pages 3-4 of the Office Action). However, Applicants submit that the reference vector in Bellifemine et al. cannot be regarded as statistical feature information used to generate a random number recited in claim 16.

In view of the above, Applicants respectfully submit that claim 16 would not have been anticipated by Bellifemine et al.

For similar reasons, Applicants respectfully submit that claims 30 and 36 also would not have been anticipated by Bellifemine et al.

***Claim Rejections Under 35 U.S.C. § 103***

The Examiner rejects claim 1 under 35 U.S.C. 103(a) as being unpatentable over Bellifemine et al. in view of Yoshino et al., asserting that Yoshino et al. teaches an encryption key generator and a content encryptor as recited in claim 1 (pages 5-6 of the Office Action).

Claim 1 recites:

An encryption apparatus comprising:

a content processor that receives an audio/video stream, performs one or more predetermined processing operations on the audio/video stream, and generates and outputs predetermined data to be used for generating a random number;

a random number generator that receives the predetermined data from the content processor and generates the random number;

an encryption key generator that receives information comprising the random number and generates an encryption key using the information; and

a content encryptor that encrypts the audio/video stream output from the content processor using the encryption key.

Yoshino et al. appears to teach a content-ICV generating key “Kicv\_cont” generated based on random numbers and used as a key to be encrypted (col. 40, lines 46-48 of Yoshino et

al.) and encryption processing on the content to be distributed (col. 2, lines 13-14 of Yoshino et al.).

However, Bellifemine et al. does not teach or suggest, *inter alia*, “a random number generator that receives the predetermined data from the content processor and generates the random number,” as recited in claim 1, and Yoshino et al. does not remedy the deficiency of Bellifemine et al.

Accordingly, Applicants respectfully submit that it would not have been obvious for a person of ordinary skill in the art to reach the invention described in claim 1 even by combining Yoshino et al. into Bellifemine et al., and therefore claim 1 is patentable over Bellifemine et al. in view of Yoshino et al.

For similar reasons, Applicants respectfully submit that claims 21 and 35 are also patentable over Bellifemine et al. in view of Yoshino et al., and that claims 2-6, 22 and 23 are patentable over Bellifemine et al. in view of Yoshino et al. at least because of their dependency from the independent claims 1 and 21.

The Examiner rejects claims 7-10 under 35 U.S.C. 103(a) as being unpatentable over Bellifemine et al. in view of Yoshino et al., and in view of Daly.

Daly appears to teach that detection of an edge within an image block is accomplished by summing the absolute values of the transform coefficients or by calculating the ratio of the variance of the low frequencies (col. 1, lines 38-50 of Daly). However, the corresponding portion of Daly only teaches comparing the sum or the calculated ratio to a prescribed threshold

value, and does not teach or suggest generating a random number based on the sum or the calculated ratio, unlike the Examiner's assertion (page 9 of the Office Action).

Furthermore, as discussed above, Bellifemine et al. does not teach or suggest "a random number generator that receives the predetermined data from the content processor and generates the random number," as recited in the independent claim 1 to which claims 7-10 refer directly or indirectly, and neither Yoshino et al. nor Daly remedies the deficiency of Bellifemine et al.

Accordingly, Applicants respectfully submit that it would not have been obvious for a person of ordinary skill in the art to reach the invention described in claims 7-10 even by combining Yoshino et al. and Daly into Bellifemine et al., and therefore claims 7-10 are patentable over Bellifemine et al. in view of Yoshino et al., and in view of Daly.

The Examiner rejects claims 11-13, 26 and 27 under 35 U.S.C. 103(a) as being unpatentable over Bellifemine et al. in view of Yoshino et al., and in view of Rajska et al., asserting that Rajska teaches that the random number is generated by performing XOR on the predetermined data and a previously generated random number (page 13 of the Office Action).

However, as discussed above, Bellifemine et al. does not teach or suggest "a random number generator that receives the predetermined data from the content processor and generates the random number," as recited in claim 1, and similarly in claim 21, to which claims 11-13, 26 and 27 refer directly or indirectly, and neither Yoshino et al. nor Rajska et al. remedies the deficiency of Bellifemine et al.

Accordingly, Applicants respectfully submit that it would not have been obvious for a person of ordinary skill in the art to reach the invention described in claims 11-13, 26 and 27

even by combining Yoshino et al. and Rajska et al. into Bellifemine et al., and therefore claims 11-13, 26 and 27 are patentable over Bellifemine et al. in view of Yoshino et al., and in view of Rajska et al.

The Examiner rejects claims 14, 15, 28 and 29 under 35 U.S.C. 103(a) as being unpatentable over Bellifemine et al. in view of Yoshino et al., and in view of Barton, asserting that Barton teaches that the meta data including information about file permission, file type, application type, serial number and license identification can be used as an identification key (page 15 of the Office Action).

However, as discussed above, Bellifemine et al. does not teach or suggest “a random number generator that receives the predetermined data from the content processor and generates the random number,” as recited in claim 1, and similarly in claim 21, to which claims 14, 15, 28 and 29 refer directly or indirectly, and neither Yoshino et al. nor Barton remedies the deficiency of Bellifemine et al.

Accordingly, Applicants respectfully submit that it would not have been obvious for a person of ordinary skill in the art to reach the invention described in claims 14, 15, 28 and 29 even by combining Yoshino et al. and Barton into Bellifemine et al., and therefore claims 14, 15, 28 and 29 are patentable over Bellifemine et al. in view of Yoshino et al., and in view of Barton.

The Examiner rejects claims 17, 19, 20, 31, 33 and 34 under 35 U.S.C. 103(a) as being unpatentable over Bellifemine et al. in view of Daly, asserting that Bellifemine et al. teaches providing a mechanism for motion estimation in compressing and encoding digital video sequence and that Daly teaches providing a considerable improvement in image quality by

detecting the presence of a high contrast edge within a block of image data (pages 17-18 of the Office Action).

However, neither Bellifemine et al. nor Daly teach or suggest “a random number generator that receives the statistical feature information and generates a random number using the statistical feature information,” as recited in claim 16, and similarly in claim 30, to which claims 17, 19, 20, 31, 33 and 34 refer directly or indirectly.

Accordingly, Applicants respectfully submit that it would not have been obvious for a person of ordinary skill in the art to reach the invention described in claims 16 and 30 even by combining Daly into Bellifemine et al., and therefore claims 17, 19, 20, 31, 33 and 34 are patentable over Bellifemine et al. in view of Daly at least because of their dependency from the independent claims 16 and 30.

The Examiner rejects claims 18 and 32 under 35 U.S.C. 103(a) as being unpatentable over Bellifemine et al., asserting that it would have been obvious to modify Bellifemine et al. to accommodate that the motion vector (MV) is generated in each macroblock and the least significant 1 bit of each of the MVs is sequentially stored in a shift register (page 22 of the Office Action).

However, as discussed above, Bellifemine et al. does not teach or suggest “a random number generator that receives the statistical feature information and generates a random number using the statistical feature information,” as recited in claim 16, and similarly in claim 30, to which claims 18 and 32 refer.

Accordingly, Applicants respectfully submit that it would not have been obvious for a person of ordinary skill in the art to reach the invention described in claims 16 and 30 from Bellifemine et al., and therefore claims 18 and 32 are patentable over Bellifemine et al. at least because of their dependency from the independent claims 16 and 30.

The Examiner rejects claims 24 and 25 under 35 U.S.C. 103(a) as being unpatentable over Bellifemine et al. in view of Yoshino et al., and in view of Daly with a similar reasoning as the rejection of claims 17, 19, 20, 31, 33 and 34 (pages 23-24 of the Office Action).

However, for similar reasons mentioned above regarding the rejection of claims 7-10, Applicants respectfully submit that claims 24 and 25, which are dependent claims of the independent claim 21, are patentable over Bellifemine et al. in view of Yoshino et al., and in view of Daly.

***Conclusion***

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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